

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Wood River Sulfuric Acid Release - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: **POLREP #4**
Progress
Wood River Sulfuric Acid Release

Wood River, IL, IL
Latitude: 38.8518045 Longitude: -90.0991173

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From: Adam Vrabec, Federal OSC
Date: 6/8/2021
Reporting Period: 06/07/2021 to 06/08/2021

1. Introduction

1.1 Background

Site Number:	Contract Number:
D.O. Number:	Action Memo Date:
Response Authority: CERCLA	Response Type: Emergency
Response Lead: PRP	Incident Category: Removal Action
NPL Status: Non NPL	Operable Unit:
Mobilization Date: 6/3/2021	Start Date: 6/3/2021
Demob Date:	Completion Date:
CERCLIS ID:	RCRIS ID:
ERNS No.:	State Notification:
FPN#:	Reimbursable Account #:

1.1.1 Incident Category

CERCLA incident category: Active Production Facility/Transportation - Related

1.1.2 Site Description

Release of spent sulfuric acid from 4 railcars staged on a railroad siding. The release occurred and was reported to the NRC (#1306714) on June 2, 2021 and involves four tank cars of spent alkylation sulfuric acid. The release occurred on a set of railroad tracks operated by Norfolk Southern. Local fire departments initially sprayed water on all four railcars to control the release of spent sulfuric acid venting sulfur dioxide.

Based on a review of the safety data sheet for spent alkylation sulfuric acid, the following contaminants of interest were identified as for Site-specific COCs of: sulfuric acid and sulfur dioxide (SO₂).

1.1.2.1 Location

The site is located approximately 1/2 mile to the North of 170 Rand Avenue, Wood River, IL 62048, in Madison County. GPS locations is 38.8512892197, -90.09852534435.

The release occurred on a set of railroad tracks operated by Norfolk Southern. The area to the North and East consist mainly of residential properties. To the West and South consist of commercial properties.

1.1.2.2 Description of Threat

On June 2, 2021 a release of Spent Sulfuric Acid occurred from the pressure relief device (PRD) resulting in the chemical migrating via air downstream and affecting several commercial businesses to the Northeast. Nearby residential neighborhoods were also affected due migrating vapors (see below).

On June 3, 2021 it was discovered that three additional railcars were experiencing high pressures resulting the PRD's going off. A shelter in place order was issued to approximately 808 homes east of the Site on the morning of June 3, 2021 and 97 homes west of the Site on the mornings of June 4 and again on June 5, 2021. All orders ended after the morning of June 5, 2021.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

- IEPA, USEPA, and START responded on scene to oversee response activities and assessing the situation on the morning of 06/04/2021

- Norfolk Southern had their emergency response and environmental representatives and contractors on-site, and Phillips 66 had their emergency response contractors on site

- Norfolk Southern and Phillips 66 contractors were going down range to assess the railcars that were causing the release and providing air monitoring in and around the incident site

- A shower curtain of water was being applied to the leaking tank cars in attempt to knock down/ suppress spent sulfuric acid vapors.

- Initial NRC report described one railcar leaking, but by the morning of 06/03/2021, three additional railcars were also leaking.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Unified Command has been established consisting of Norfolk & Southern, Phillips 66, U.S. EPA, and Illinois Environmental Protection Agency (IEPA) Wood River Fire Department and Madison County EMA.

2.1.2 Response Actions to Date

- Norfolk Southern Railway (NS) and Phillips 66 created an unified command and deployed emergency response staff and contractors to mitigate the release;
- 24/7 water curtain was being applied to leaking cars until a shroud was constructed around the leaky area;
- Hydrogen sulfide was removed from the shroud via a vacuum truck containing a neutralizing agent;
- Neutralized material was treated at the Phillips 66 treatment plant;
- Periodic pH monitoring of run-off water.
- Approximately 6 million gallons of water have been used by 2400 hours - 06/05/2021 to suppress vapors.
- 24/7 air monitoring around perimeter of incident location (see next bullets for details)
- Norfolk Southern Railway (NS) on-Site management is supported by their contractor (GHD) for real-time air monitoring activities, results, and observations from real-time air monitoring performed in relation to a release of spent sulfuric acid resulting in venting sulfur dioxide. GHD performed 24-hour real-time air monitoring and sampling in the surrounding community and at one location near the release. Air monitoring data was shared with EPA.
- Phillips 66 on-Site management is supported by their own air monitoring staff with support from their contractor CTH. Phillips 66 and CTH performed 24-hour real-time air monitoring and sampling in the surrounding community and near the release. Air monitoring data was shared with EPA.
- EPA START contractor Tetra Tech performed 24-hour real-time air monitoring in the surrounding community.

Update for 06/05/2021 – 06/06/21 (1500 hours)

- On 06/05/2021, both morning and afternoon operations continued use of water curtain suppression control of vapors. 24-hour, round-the clock perimeter air monitoring was performed by START, Phillips 66 and Norfolk & Southern Railroad using the direct read instruments of AreaRAE's, MultiRAE's in conjunction with SPM-Flex instruments occasionally performing spot checks with color-metric tubes. Note: START is collecting real-time data with four AreaRAE's and three SPM-Flex instruments all connected to Viper streaming data to the EPA Cloud. START instruments are deployed as tasked by OSC Vrabec to the far eastern side of the site placed along South 6th Street for residential surveillance purpose with one AreaRAE (Air Monitoring Station #5) in an upwind location near the intersection of Rand Avenue and Delmar Street.

After the 1800 hours daily operations meeting on 06/05/2021, Unified Command tactic decisions were made to attempt the capture the vapors due to decreasing pressure from the four railcars. Also, continuous air monitoring and maintaining a water curtain control of vapors emanating from the four railcars as additional protective measures.

Early morning hours of 06/06/2021

- At approximately 0100 hours a crude "bagged" shroud with affixed extraction piping placed covered over

the dome of each railcar with connections to a vacuum truck containing a slurry of soda ash. Vapors were drawn from the bag collection device and into the vacuum truck slurry mixture. Starting at 0345 hours the bagged system was fully operational on all four venting railcars

- At approximately 0445 hours, a slurry of soda ash was also spray applied underneath and on both sides of the venting railcars.
- At 0700 hours, the tactics that were deployed in the early morning hours resulted in no new shelter in place or road closures unlike the previous two days before in the early morning hours.
- At approximately 1145 hours, the water curtain operations was suspended to test the effectiveness of bagged vapor control tactic.
- As of 1700 hours the water curtain remains off and no elevated readings of SO₂ are observed on air monitoring equipment, and if observed, they are not sustained readings.

As of 1800 hours on 06/06/2021

The bagged vapor control system installed on all four tank cars still continue to operate until no vapors are releasing from the railcars. If water curtain suppression is needed, the water system will resume tank car spray suppression of vapors.

-USEPA, GHD, CTEH, Phillip 66, Fire departments continue to do 24/7 air monitoring around perimeter of incident location.

-Unified Command continues to operate 24/7

Update for 06/06/2012 – 1800 hours on 06/07/2021

- No elevated readings were observed by the site surveillance air monitoring systems.
- At 1019 hours railcar #3 successfully completed the planned replacement of all fittings. At this time, the pressure is holding.
- At 1419 hours railcar #2 successfully completed replacement of all fittings and the pressure is holding.
- Shroud collection and control of vapors used in conjunction with scrubbers on Railcars #1 and 4 are operating nominally.

Update for 6/7/2021 to 6/8/2021

- Sealed railcars the last two remaining rail-cars making all four rail-cars sealed;
- Prepared the receiving area in the Phillips 66 refinery for the four sealed rail-cars by creating an air monitoring perimeter, water curtain capability, scrubbers, vapor capture system, and vacuum trucks;
- Transported the rail-cars to the Phillips 66 receiving area; and
- Unified command disbanded following the successful delivery of the rail-cars to the Phillips 66 receiving area thus completing the emergency response portion of this incident.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

Notice of Federal Interest in a threat of Hazardous Release Incident issued to both Phillips 66 and Norfolk & Southern Railway Company.

2.1.4 Progress Metrics

Waste Stream	Medium	Quantity	Manifest #	Treatment	Disposal
Wastewater	Water	TBD	N/A	Phillips 66 Treatment Facility	On-Site

2.2 Planning Section

2.2.1 Anticipated Activities

- Phillips 66 will monitoring the four tank-car for any pressure increases and stability following the move to the Phillips 66 receiving area;
- Air monitoring will continue around the four tank-cars;
- A high hazard specialty crew will be brought in to remove the material from the tank cars at a to be determined (TBD) date in the future when deemed safe;
- Mitigation methods will be deployed if any reactions occur; and
- EPA will be notified prior to material being removed from the tank-cars.

2.2.1.1 Planned Response Activities

None anticipated

2.2.1.2 Next Steps

None anticipated

2.2.2 Issues

None

2.3 Logistics Section

None

2.4 Finance Section

2.4.1 Narrative

The START Task Order Line Item Number (TOLIN) was issued for \$10,000 on 06/03/2021. Incremental financing is expected on 06/08/2021.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
TAT/START	\$10,000.00	\$10,000.00	\$0.00	0.00%
Intramural Costs				
Total Site Costs	\$10,000.00	\$10,000.00	\$0.00	0.00%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

2.5.1 Safety Officer

Rotating Unified Command

2.5.2 Liaison Officer

Rotating Unified Command

2.5.3 Information Officer

Rotating Unified Command

3. Participating Entities

3.1 Unified Command

US EPA is participating in Unified Command structure

3.2 Cooperating Agencies

USEPA, IEPA, Norfolk Southern, Phillips 66, Madison County EMA, Wood River Fire Department.

4. Personnel On Site

USEPA, IEPA, Norfolk Southern, Phillips 66, Madison County EMA, Wood River Fire Department.

5. Definition of Terms

No information available at this time.

6. Additional sources of information

6.1 Internet location of additional information/report

https://response.epa.gov/site/sitrep_profile.aspx?site_id=15228

6.2 Reporting Schedule

Tank cars are secured. Next reporting will occur following the notification that the tank cars are being remediated.

7. Situational Reference Materials

No information available at this time.



